

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A process for producing high purity 1,1,1,2-tetrafluoroethane and/or pentafluoroethane by a step of purifying a crude product obtained by reacting trichloroethylene and/or tetrachloroethylene with hydrogen fluoride comprised of a main product including 1,1,1,2-tetrafluoroethane and/or pentafluoroethane, hydrogen fluoride as an azeotropic component with the main product, and impurity ingredients including at least an unsaturated compound, wherein said purifying step includes a step of bringing a mixture obtained by newly adding hydrogen fluoride into said crude product into contact with a fluorination catalyst in the vapor phase to ~~reducing~~ reduce the content of the unsaturated compound contained in said crude product and a distillation step.

2. (currently amended): A production process as set forth in claim 1, wherein ~~the content of the said crude product contains~~ hydrogen chloride ~~contained as the~~ an impurity in ~~said crude product is~~ an amount of 2 mol% or less.

3. (previously presented): A production process as set forth in claim 1, wherein the concentration of the 1,1,1,2-tetrafluoroethane and/or pentafluoroethane contained in said crude product is 70 mol% or more.

4. (previously presented): A production process as set forth in claim 1, wherein said unsaturated compound is at least one compound selected from a group consisting of 1,1-difluoro-2-chloroethylene, 1,2-difluoro-1-chloroethylene, 1-chloro-2-fluoroethylene, 1,1,2-trifluoroethylene, and 1-chloro-1,2,2-trifluoroethylene.

5. (previously presented): A production process as set forth in claim 1, wherein said fluorination catalyst includes at least one metal element selected from a group consisting of Cu, Mg, Zn, Pb, V, Bi, Cr, In, Mn, Fe, Co, Ni, and Al.

6. (previously presented): A production process as set forth in claim 1, wherein a contact temperature between said mixture and said fluorination catalyst is within a range of from 130 to 280°C.

7. (previously presented): A production process as set forth in claim 1, wherein a mixture obtained by newly adding hydrogen fluoride to a crude product comprised of a main product including 1,1,1,2-tetrafluoroethane, hydrogen fluoride as an azeotropic component with the main product, and impurity ingredients including at least an unsaturated compound is brought into contact with the fluorination catalyst in the vapor phase to reduce the content of the unsaturated compound contained in said crude product.

8. (original): A production process as set forth in claim 7, wherein the contact temperature between said mixture and said fluorination catalyst is within a range of from 130 to 200°C.

9. (previously presented): A production process as set forth in claim 1, further comprising separating the hydrogen fluoride in said distillation step and recirculating the separated hydrogen fluoride to a step for obtaining said crude product.

10. (canceled).

11. (withdrawn-currently amended): A process for production of pentafluoroethane and/or hexafluoroethane comprising reacting ~~the a~~ 1,1,1,2-tetrafluoroethane ~~as set forth in claim 10~~ obtained by a production process as set forth in claim 1, wherein a total content of chlorine-

containing compounds in said 1,1,1,2-tetrafluoroethane is 2 volppm or less, and fluorine gas in the presence of a diluting gas.

12. (canceled).

13. (canceled).